

1791
AN
E S S A Y

ON THE

Bilious or Yellow Fever

OF

J A M A I C A:

Collected from the

MANUSCRIPT of a late SURGEON.

By CHARLES BLICKE.

L O N D O N:

Printed for T. Becket and Co. in the Strand;
and E. and C. Dilly, in the Poultry.

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[Price One Shilling and Six-Pence.]

AN

ESSAYS

History of Yellow Fever

J. A. C. A.



MANUSCRIPT OF A LATE SURGEON

BY CHARLES ELICK

LONDON:

Printed for T. Parker and Co. in the Strand,
and Edward C. Kelly, in the Strand.

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ADVERTISEMENT.

I Was, some years ago, favoured by a friend with the copy of a manuscript, containing a series of observations on the nature and treatment of the bilious or yellow fever of Jamaica. As his observations were the result of many years practice and experience, and as they seemed withal to be founded on truth, I could not help assenting to his reasoning and method of treatment, tho' sometimes contradictory to those authors, whom I had read on the same subject.

My friend had already sketched his observations into a kind of essay, and it was his intention, (had he lived) after a careful revisal and alteration of his manuscript, to publish it for the good of mankind.

I have frequently purposed, since the author's death, to alter and publish his manuscript; but as, on close examination, it appeared in some places too diffuse, in others too unconnected, I was diverted from my design,
least

least my inexperience in those disorders, might disqualify me from perfecting the many considerable alterations, that would be necessary, before the piece could be ushered into the literary world: But, having at length overcome my diffidence, I resolved a few months ago, to abridge and new-model the performance.

It will perhaps be objected, that the following essay contains a greater number of quotations than is requisite: but, allowing such objection, it would surely have been a kind of injustice in me, to expunge such authorities, as my deceased friend had produced in support of his several opinions.

Tho' I have with the most scrupulous fidelity preserved the author's sentiments, I have considerably familiarized the style, in order to render the work as universally intelligible, as the nature of a medical subject will admit.

Old Jewry.

Charles Blicke.

~~I have conversed with some judicious~~

and experienced gentlemen about the nature and causes of this fever, and estimated my design of publishing a treatise on the subject.

P R E F A C E

IT is somewhat strange that none of our physical writers have yet attempted to explain the nature, and causes of the bilious, or yellow fever of Jamaica; especially as we have had physicians sufficiently qualified for such undertaking. The task surely would not be unworthy of those ingenious gentlemen, whom fortune hath placed above the necessity of practising physic for the sake of a livelihood. To me it appears an indispensable obligation on every man of genius and abilities, to communicate such discoveries, as may be useful to society; but more particularly such, as immediately tend to the preservation of the lives of his fellow-creatures.

ii P R E F A C E.

I have conversed with some judicious and experienced gentlemen about the nature and causes of this fever, and intimated my design of publishing a short treatise on the subject; but instead of encouraging me to such laudable undertaking, they have insinuated, that the disease was sufficiently known; that little could be done for the patient; and that the fever, in its most dangerous state, was generally incurable. But as lord Bacon very wisely remarks, "to declare a disease incurable is to establish negligence and carelessness, as it were by law, and to screen ignorance from reproach."

Whether the following sheets will throw any new light on this fatal disorder; or whether its real nature and causes, with the proper method of treating it, are duly pointed out, I must leave to the determination of impartial judges.

Should

Should I even fail of success as an author, I am, in some degree, entitled to the thanks of the public as a philanthropist; since the real, the sole motive of the present publication is a sincere desire to serve mankind; which desire will be fully gratified, if my essay should induce some abler pen to elucidate the subject in a more clear, and masterly manner.

Such medical process, as I have found, by long observation and experience, to be beneficial or hurtful to patients in this dreadful disorder, I have faithfully pointed out; and if uncommon success in the cure of it be any proof of the efficacy of my practice, I may, without the imputation of vanity, declare that few of the physical tribe can justly lay claim to a more thorough knowledge of the bilious fever, in all its stages, than myself.

My principal design, in the following essay, is to treat on the ætiology of this disease: that seems the most necessary. I have therefore but slightly touched on diagnostics, or prognostics: which parts of the practice are sufficiently known to those gentlemen of the faculty, who have lived any considerable time in Jamaica; or who have attended strangers, afflicted with this malady.

Of the dietetic and therapeutic parts I have said enough to persons, acquainted with medicine and diseases: had I been more copious, it probably would not have rendered the essay more useful.

It is evident to me that no man, let his genius or stock of learning be ever so considerable, can be a proper judge of this disorder, without faithful observation and long experience: yet the passion for novelty is so great in Jamaica, that some persons sacrifice life itself to it.

Quæ tanta Insania, Cives?

Virg.

MY

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P R E F A C E

A new comer, whose head is filled with theory and darling hypotheses, will be frequently employed in preference to a man, who after the method of honest Sydenham, carefully makes himself acquainted with the diseases of his country, and who prudently follows the vestigia of nature, never sacrificing his patient to any favourite hypothesis.

It must surely be a shocking consideration to men of sense and discernment, that reputation in the practice of physic, instead of being acquired by medicinal knowledge, experience, and such accomplishments, as render a physician justly eminent, is too often owing to the sanguine endeavours of partizans. That noble, that useful science, the divine science of medicine (heretofore the study of princes) is frequently prostituted to the basest ends, and I am afraid there have been too many instances where the

patient's

P R E F A C E.

patient's life has been sacrific'd to party and prejudice.

To relieve a fellow-creature, languishing under disease, or tortured with excruciating pain, is great and god-like; and he, who by his skill and the assiduous discharge of his profession, is capable of doing this, must (at least in my opinion) receive the greatest pleasure, the human mind can possibly enjoy.

The honourable assembly of Jamaica hath wisely considered, that the welfare and security of the island greatly depend on the increase of white inhabitants; and, to that end, it hath given (according to its accustomed goodness and generosity) the greatest encouragement to strangers to become residents. Surely therefore every wellwisher to that island should earnestly endeavour to promote the means of preserving the lives of such persons, as come to settle there!

I have

I have seen several melancholy instances of strangers suddenly falling into this fever, by imprudently walking too briskly on their first arrival, and carelessly exposing themselves to the meridian sun.

Strangers have too great a prejudice to that island, which I shall, in the following essay, attempt to remove; by shewing that it has not, as is generally imagin'd, any malignant, or infectious air; that the disorders, so prevalent there, proceed from errors in the nonnaturals, and predisposing causes in northern bodies, which may be avoided or soon removed; and that this fever, of which British adventurers have so dreadful an idea, may either be prevented or cured.

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AN
E S S A Y
ON THE
Bilious, or Yellow Fever of Jamaica.

HE bilious, or yellow fever, so called from the yellow appearance of the skin,* is a disease, with which the ancients are generally supposed to have been unacquainted. But, notwithstanding the prevalence of such opinion, I may

* The yellowness is commonly most remarkable in the tunica conjunctiva.

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with

with a kind of certainty maintain, that Hippocrates was no stranger to this malignant disorder; since he not only describes its symptoms, but points out a method of treating it.

In his book *de affectionibus*, he takes notice of a fever, attended with a pain about the *præcordia* and *hypochondriac* regions, (particularly on the right region of the liver) and says, "when it is more violent, the pains increase, and the patient appears somewhat bilious, or yellow." In his *epidemics* he likewise mentions fevers, in which a jaundice appears on the sixth day, that were relieved by a critical discharge either by stool, by urine, or by hæmorrhage from the nose; and probably from all three; as he instances in the case of his patient *Heraclides*.

The twelfth patient, in the third book of popular diseases, was seized with a violent fever in the beginning, which ended

ended with the usual symptoms of the yellow fever, such as black vomiting, hiccup, and bleeding at the nose.

He also makes frequent mention of those symptoms, which are reckoned diagnostics, or distinguishing marks of the bilious fever. The vomiting of black humours, he observes, is an indication of sudden death, and he represents a fever, with a concomitant jaundice as very dangerous, if the jaundice comes on soon. He further adds in the same aphorism, "in this case a loose belly "is favourable." This also holds good in Jamaica: A spontaneous diarrhæa, in the beginning of the fever, is always serviceable; and to stop it, by opiates and alexipharmics, is very dangerous.*

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* Some years ago we had several advocates for the alexipharmic, or sudorific method, whom Wainwright very justly exposes in the following remark; "we may conclude how fit they are to be trusted "with the patient's life, who, instead of curbing
" the

The fevers, described by Hippocrates, were not indeed so soon determined; nor were his bilious, or yellow fevers so acute as those of Jamaica. The difference may naturally be attributed to the difference of climate, and the manner of living.

Celsus, the prince of Latin physicians, mentions particularly the vomiting of black humours, and says, "in that case the belly ought to be moved,"

Among later authors Hoffman treats of an ardent bilious fever. He also describes a choleric fever, which distemper is pretty common in Jamaica in the latter end of the year.

"the too-impetuous motion of the blood with
 "cooling diluters, and moderate evacuations, spur it
 "on faster with heating cordials, and alexiphar-
 "mics."

I do

I do not apprehend the bilious fever to be local. Bontius relates that it prevails in the East Indies. I have met with it on the coast of Africa, and can, with certainty, declare that in the river Benin, it is much more acute than in Jamaica. But the strongest instances of its virulence and acuteness, which I ever experienced, were at the expedition against Carthagena, when the persons, unhappily seized with it, died in less than twenty four hours.

This fever is generally brought on by suddenly cooling the body, and checking perspiration, after severe exercise in the heat of the sun. For instance; the sailors frequently row several leagues against a current, when they go to cut wood for the ship's use; and, by way of supposed refreshment, imprudently jump into the water: such inconsiderate act seldom fails of bringing on this distemper.

The

The bilious fever does not appear to have any particular period or constitution; for it indiscriminately prevails in all the seasons of the year. Nor could I ever be induced to think it contagious; except at the expedition against Carthage. It was then indeed so general, and so fatal, that it was looked upon as a plague, and the sick were even shunned, thro' fear of contagion. At this alarming juncture, the disorder might possibly be infectious.

Yellowness of the skin ought not always to be reckoned a distinguishing mark of this fever. The celebrated Boerhaave observes, "that such phænomenon will appear, where there is a strong propensity of the juices to putrification." Indeed in the bilious, there is a deeper, a more remarkable yellowness; for according to Galen's opinion, "bile offends more or less in all fevers." I have observed

ved in the Carribee islands and North America different sorts of yellow fevers; nay even in Jamaica I have known different yellow fevers.

After the hurricane in the year 1744, several persons laboured under a putrid yellow fever, arising from a manifest change of the air. In this disorder, which I called a central fever, dangerous nervous symptoms soon came on; the pulse was low and oppressed, and the extremities were cold. In these cases, blisters, camphire, and snake root were very serviceable.

There cannot be a greater, yet more general mistake, than to imagine that all yellow fevers are of the same genus, and that they should all be treated in the same manner.

Several practitioners pursue Dr. Warren's sudorific method, both in the islands, and on the continent of America. In
some

some parts it answers, in others it is destructive.

Laudatur ab his, culpatur ab illis. Hor.

Many others object against this doctor's sudorifics, as too hot; being at length convinced by bad success of their inefficacy: yet these various practitioners, apprehending but one sort of yellow fever, implicitly follow Warren, or some other physical chief, in whose method and favour they are severally prejudiced, (perhaps only by hearsay) and proceed very often contrary to the endeavours of nature, and indications of the pulse. Thus the poor patient is destroyed *secundum artem*, by too blind an adherence to an unexamined hypothesis.

Shall the bilious fever of Jamaica, which perhaps agrees but in the phenomenon yellowness with that of Barbadoes, and the fever on the continent, which is still of a different species, be
treated

treated after the same manner, when experience, the best guide, convinces us they require a different method of cure?

For instance, persons, seized with this fever in Jamaica, have generally a full, frequent pulse to the last; nor is it sunk by evacuations, which in the beginning they bear very well. A cooling regimen, solutive and diluting medicines succeed best: the disease soon arrives at its acme or state, and consequently is soon determined.

In Virginia, and other parts of the continent, the pulse sinks so low, as to be vermicular, or scarce perceptible. The strongest sudorifics and alexipharmics (which, given in Jamaica in an ardent fever, would bring on a delirium or phrensy, and destroy the patient) will scarce raise the pulse, tho' given in immoderate doses.

On the continent, we are to promote at all events the concoction of the febrile matter, by the use of alexipharmics and sudorifics: We must keep up the pulse till the crisis, which generally happens on the seventh, ninth, and sometimes eleventh day.

In Jamaica, our utmost endeavours must be used to suppress the fever. We must administer such things, as powerfully cool and condense the blood; thereby to prevent the formation of the fever.

In Virginia, nothing is so serviceable in the remissions, as the peruvian bark, which may be given even in the height of the fever, after the first stadium, without regard to the exacerbations. Yet this in other countries is contrary to practice. In Jamaica, the bark in all forms hath frequently been tried in the remissions, but without success; indeed it generally does much harm.

Are

Are not these diseases, and the method of cure diametrically opposite? yet they are both yellow fevers.

What I have already advanced may be sufficient to prove, that there are different yellow fevers, and that yellowness of the skin is not always a distinguishing mark of their genus; particularly in the ardent bilious fever.

I shall now attempt to elucidate the nature and cause of the dreadful fever of Jamaica, and endeavour to trace it up to its origin; as, in the great Dr. Mead's words, "the first step towards the cure of a disease is to know its origin."

The distinguishing symptoms, or diagnostics of this disorder, are (besides those common to fevers) great anxiety, heat and pain at the scrobiculum cordis, proceeding from an obstruction of the bile, and some degree of inflammation in the

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liver,

liver, which sometimes causes a jaundice, or bilious vomitings. Sometimes a dense pain about the region of the liver, with a strong propensity of the juices to putrification. Sometimes the right hypochondre is tumefied, and frequently so hard, that the patient cannot bear the least pressure on the right side, nor lie on the left. To these symptoms worse succeed; such as strong and continual convulsions of the diaphragm, intercostal muscles and stomach; æruginose vomitings; vomitings of black bile, and adust blood, not unlike the grounds of coffee, mixt with acrid unfinished bile; the juices of the stomach and pancreas both very sharp; bleeding at the emunctories; delirium or phrensy, and general gangrene.

These are indeed dreadful symptoms, and these it is the practitioner's business to prevent, by a careful attention to his patient's disorder. I hope I shall be able to assist him therein, by pointing out causes

causes adequate to these effects; without accusing the air of malignancy, without the aliquid divinum of Hippocrates, or occult venom, &c. This I shall endeavour to elucidate in a plain and mechanical manner.

I am not ignorant that it is absolutely necessary to the cure of fevers, to understand the remote causes of them; such as, what is call'd, the morbidic disposition of the air; the poisonous effluvia or subtile miasmata, that are thought to occasion them; and that particular bad texture of the juices, supposed to be contaminated by their influence. "No matter whether fevers are occasioned," says Pitcairn, "by the miasma from without, or the humours be chang'd within to morbidic matter; for all things will happen in the same manner."

The causes of this fever seem to be a sudden check to perspiration; a redundancy of bile, than which nothing is more

more dangerous ; plethora ; stoppage of some natural evacuations ; drinking large draughts of cool liquors, when the body is overheated ; vehement exercise, and hard drinking ; but, above all, exercise that is violent, or long continued in the heat of the sun.

Among the predisposing causes, we may reckon the rigid fibres and thick blood of Europeans, and North Americans ; their almost-callous pores, that will not permit (if the expression may be used) an evaporation equal to the effervescence raised within ; from which the thin fine parts are only drained off or transude, whilst the more gross and fuliginous are confined in the vessels, and block up the passages.

These are (at least in my opinion) sufficient causes, from which all the direful symptoms, that we see in the yellow fever, may be naturally deduced, without having recourse to malignancy of air,
or

or occult venom. For instance, should a person of a sanguine and plethoric habit, with rigid fibres, and stiff contracted pores, (like most of the northern people) use any vehement exercise in the heat of the sun, his blood would be greatly rarefied, and the celerity of its motion increased by such additional heat and unusual action of his muscles. The tense muscular coats of the arteries strongly contract, and the blood, thus heated and rarefied, is impelled forward faster than it can pass into the veins, and the finer fluids, from the extreme vessels on the surface of the body, are in a great measure exhausted. This consumption must be the consequence of any violent exercise, by which the thinner fluids can only be wasted. The pores are too stiff, springy, and contracted to admit the grosser particles to pass thro'; the serum is thereby inspissated, and, by the increased velocity of the motion of the blood, too intimately blended with the crassamentum.

The

The more the fine parts are exhausted, the more the blood is apt to stagnate; and a stoppage in the circulation of the lymph produces glandular obstructions. The blood, being rarefied and expanded beyond the natural diameters of the vessels, the arteries suddenly and forcibly contract, and thereby impell some of the globular part of the blood into the *arteria serosa prima generis*, whose coats are much less capable of resistance, than those of the sanguine arteries, and consequently the more liable to distend: Thus some part of the yellow serum in the *vasa serosa primi generis* is forced into the still finer and weaker vessels, the *arteria serosa secundi vel tertii generis*, or *vasa lymphatica*, which produces that yellowness in the beginning of the fever.

As the liver is a soft yielding viscus, and less capable of resistance than many other parts of the body, the rarefied blood is thrust into it in greater quantities

quantities than usual. Nay some of this heated fluid is forced into the lateral branches of the vena portæ along with the bile. From this a partial obstruction and inflammation of the liver will arise. The bile is regurgitated by the vena cava, and this causes a jaundice or deeper yellowness.

From such extravasation or ingress of fluids, whose compounding parts are too large to pass thro' the vessels, must proceed a most dangerous glandular obstruction, which stops the circulation of the lymph, and of consequence a most violent fever comes on. The blood, thro' want of sufficient lymph to cool and dilute it, is rendered more acrid by the bile; and thence will ensue a putrifaction of the juices, a great relaxation from the long and continued plethora, with an erosion or rupture of the vessels, whose contractile restitutive power being lost, the very texture of the blood is destroyed. In this alarming state, bleeding from all the

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lateral

lateral vessels, a general gangrene, and death itself must naturally follow. That this extravasation of the blood frequently happens, nay the rupture of the arteries themselves (whose coats bear a much greater proportion to their diameters, than those of the arteria serosa primi, secundi, vel tertii generis) is pretty evident. Several persons have dropt down dead, thro' the excessive heat of the sun, in Philadelphia and other countries, where the great heats are not so usual, nor the fibres sufficiently relaxed to give way to the sudden expansion of the blood in the carotid and cervical arteries.

I could recite several instances of persons, that have died apoplectic, by drinking cold water; or by cooling themselves too suddenly, after fighting, or some other vehement exercise. Their death undoubtedly proceeded from too sudden a contraction of the arteries. Had the vessels been sufficiently dilated to the expansive

passive force of the blood, such fatal accidents would have been prevented.

When this extravasation happens within the cranium (which is pretty common in yellow fevers) it is certain the consequence must be immediate death. A plentiful bleeding in the beginning of the disease, or a large hæmorrhage from the nose might have saved the patient.

But if an inflammation happens, from the causes before mentioned, in the liver, (which seems to be frequently the case) an ardent fever, with a jaundice, must succeed. From this may be deduced all the direful symptoms of the bilious fever, in contradiction to that vague opinion of malignancy. The learned Boerhaave observes, "from the various kinds of jaundice, and affections of the liver may be understood many symptoms, occurring in acute diseases, whose reasons, being unknown, have given birth to all the tales about malignancy in diseases."

Hippocrates observes, that “ persons
 “ labouring in the sun, such as mowers
 “ and travellers, overheat themselves in
 “ summer time; and, by that means, throw
 “ off too great a quantity of the thinner
 “ part of the blood; by which the thicker
 “ does not pass thro’ the liver, but is
 “ there accumulated.”

The constitution of the air, and the
 diseases in the East Indies, according to
 Bontius, seem to resemble the air and
 diseases of Jamaica. He remarks, that
 “ the liver in that country is very often
 “ inflamed by the pernicious custom of
 “ drinking arrack, (very common among
 “ the sailors) and by afterwards lying
 “ down, exposed to the air and dews;
 “ or by drinking, when much heated,
 “ large draughts of cold water; from
 “ which practices arise obstruction and
 “ inflammation of the liver, and an acute
 “ fever, frequently mortal.” This is ex-
 actly the case with our British sailors in
 the

the West Indies, who make too free and imprudent a use of rum. He further observes, that "the jaundice is often fatal in East India;" and in all disorders, where the liver is affected, he attempts the cure with phlebotomy, solutive purges, and diuretics.

I shall now consider the mechanism of the liver; its connection with the other viscera; the nature of the bile; and whether it is not probable a stagnation may frequently happen in the ramifications of the vena portæ.

The liver, as before observed, is a soft yielding gland, and, as its texture is loose, an inflammation and obstruction don't always give acute pain. It covers the upper side of the stomach, where, when inflamed, it produces nausea and sensation of weight, and is the cause of vomiting. It is connected with the diaphragm, from whence, as Hippocrates remarks, proceeds that dangerous symptom

tom the hickup. The liver, exclusive of its vicinity to the stomach, hath an immediate communication by blood vessels, and derives its nerves from the same stock with most of the bowels in the abdomen. The greatest part of the blood of the whole abdominal viscera passes thro' it.

From the situation, connexion, and use of the liver, it is obvious that terrible symptoms must necessarily happen in an ardent fever, caused by an inflammation of this gland; especially in hot climates, where the juices so soon incline to putrifaction. As to the bile, when it offends both in quantity and quality, it appears to be an agent, sufficient of itself to cause all the train of terrible symptoms, attendant on this fever. The bile consists of oil and a penetrating sharp salt, which, according to Galen, increases in quantity, and is soon made more sharp by heat, and an increased circulation. It is very liable to putrify,
and,

and, when mixt with the blood, turns the whole mass into putrifaction, and causes a mortal fever.

The celebrated Boerhaave says, "*Nil enim plus quam oleum acre alcalinum gangrænam facit.*" Acrid bile seems here to be that oleum acre alcalinum.

The same excellent author, speaking of a particular gangrene, (which I suppose may hold good in a general one) says, "a gangrene, in an ardent fever and the plague, is incurable; because, in these cases, it soon turns to a mortification, and is hardest of all to be cured in oily, alkaline, or bilious dispositions."

A stagnation of the blood, in the fine ramifications of the vena portæ, may frequently happen from a sudden contraction of the vessels, which presses too much on the heated and rarefied fluid. The
blood

blood globules are thereby forced into the lateral vessels with the bile, and, being too gross to pass, occasion an obstruction, inflammation, and jaundice. This is the opinion of some; others, with more probability, suppose as the vena portæ discharges the duty of an artery (but not having so strong a muscular coat as an artery of equal diameter, and giving a slower motion to the blood) that the blood, being drained too much of its serum, by the glands of the abdomen, before it arrives at the liver, its circulation is greatly impeded, and it consequently stagnates in the extreme branches of the vena portæ, where they are inflected to form the beginning branches of the cava.

That the circulation of the blood is obstructed in the liver appears from the following observations. In subjects that died of this disorder, the liver was increased

creased in bulk, and greatly inflamed; on the concave part large black spots appeared, which were mortified parts of that viscus. The mesenteric veins, that deliver their blood into one large trunk, which constitutes the vena portæ, were vastly turgid, and the whole intestinal tube appeared livid, the inner coat being covered with a gangrenous bloody slough. When it was washed off, the extreme mesenteric vessels were blackish and loaded with blood, and the gall bladder was frequently empty. Some of the vessels, that by their contortions, minuteness, and the tenuity of their coats, had the appearance of lateral ones, which, in a natural state, excrete only lymph or mucus; but on being filled with blood it was hardly possible to ascertain their species.

There are still two manifest causes of this fever, that I have not yet mentioned. The first is an inflammation of the

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small

small vessels, constituting the larger arteries, which often happens from vehement exercise, or long and continued motion. This case may be seen in hares hunted, bulls baited, &c. The coats of the arteries being inflamed, the circular fibres of their muscular coats are contracted into lesser circles, and, at the same time, the heated rarefied blood is forcibly expanded, and presses strongly against the sides of the vessels. Is it not then evident, that in these circumstances some part of the crassamentum is most likely to be forced into the lateral vessels? The consequence of such impulsion has been already remarked.

Ruyseh mentions a man, who died thro' extreme motion, in whom the coats of the aorta were inflamed, and from thence the artery was contracted.

The second cause of inflammation and jaundice is, when the fat, in corpulent persons,

persons, is melted by overheating the body, or by the heat of a fever, and is then absorbed by the meseraic veins, and carried to the liver, where it stagnates in the vena portæ, grows rancid, and occasions the worst sort of obstruction.

This was the case of Captain G—— from Liverpool; but he was happily relieved by a critical discharge by urine, which I took care to encourage. The urine for two days appeared like very fat thick broth; but this I have seen in thin persons, as well as in those of a corpulent habit.

I have now recited a sufficient number of causes, either alone or concurring with a plethora, bilian lenor, or whatever alterations may happen without, or existing within, to prove the absurdity of malignancy, occult venom, contagion without, or coagulating acid within; which

several learned men prove cannot exist in the blood.

Almost every practitioner, who has been long in Jamaica, or has attended sick strangers, can make a just prognostic in this fever; nay even some of our nurses are able to do it. However, for the sake of those gentlemen, who have never been in that island, and who may intend to settle there, I will give the following general remarks.

If a jaundice comes on soon, it is bad; if with livid spots, which sometimes, tho' rarely happens, it is fatal. If the skin be obstinately dry and rough, the case is dangerous, and the longer it continues so, the greater is the danger. Nay, the patient in such case seldom recovers, be the pulse ever so good, or the other appearances ever so favourable. The pulse is not to be depended on in this fever; since many have a good pulse, even a few hours before death. If the vomit-
ings

ings are incessant, grow darker, and hickups come on, it generally is fatal. If the face is greatly flushed, and the vessels on the tunica adnata turgid with blood, as in the ophthalmia, and the patient at the same time has a phrensy, you may expect his death in a very little time; especially if the skin continues dry. But if the head is clear, the pulse rendered soft, the pains, anguish, and nausea are relieved by bleeding; if the humours, which were forcibly thrown up from the stomach, are gently carried down by solutives, and the patient afterwards becomes more quiet; if those jactitations cease, the skin grows soft and moist, and the poor sufferer has better spirits, there is the strongest assurance of his recovery.

I have wondered that livid spots are not frequently seen, since the blood is sometimes dissolved to such a degree, as even to force its way thro' the skin, or to burst out from some small twig of
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an artery on the surface. This hamorrhage is so violent, that it cannot be easily restrained.

Before I attempt to point out a method of cure, drawn from the nature and symptoms of this disease, and confirm'd by my own observations and experience, it may not be amiss to lay before my readers the arguments, made use of by those practitioners, who pursue the alexipharmic and sudorific plan in the very beginning of this fever.

These gentlemen maintain, that from occult venom, contagion, or miasma, the texture of the blood is destroyed, and turned into a vapid putrid mass, which renders it no longer fit for the uses of the animal œconomy; that it runs off thro' the glands, (strainers designed to excern a much thinner liquor) and that it is in the same state as in pestilential fevers. In consequence of this opinion, they give sudorifics and alexipharmics

as in a pestis; on a supposition, that the most likely way of saving the patient is to keep open the pores of the skin. The yellowness, they apprehend, proceeds only from the broken texture of the blood; for, say they, take the red globules of blood, break them in a mortar with the addition of a little water, and they will become a yellow fluid.

This theory is founded on a supposition that a subtile elastic air fills the spherulæ of the blood, and that when such spherulæ or globules are broken, and their elastic air exhausted, the blood remains a vapid mass, no longer fit for the necessary secretions. This is the opinion of several learned authors, particularly of Boerhaave in his practice of physic, and of our countryman Dr. Mead in his essay on poisons.

The reason, which Boerhaave advances in support of his opinion, is rather curious, than just; viz. "that when the
" blood

“ blood globules enter the evanescent arteries, where their diameters are smallest, in their communications with the veins they change their spherical form into an oblong spheroid, and afterwards reassume their circular state.”

But this temporary change of figure is, I think, better accounted for by corpuscular attraction, or that power of cohesion, which is in all bodies; for two spherulæ of quicksilver, when they approach very near the point of contact, change by their natural force their figures into oblong spheroids. Now, as such change of figure is wrought on a particle of quicksilver, which is not filled with elastic air, why cannot we suppose a blood globule to undergo the like change on the same natural principle? This attractive force is no innovation in physic, or philosophy: It has been acknowledged by ancient, as well as modern physicians and philosophers.

Dr. Keil says, “ the attractive force
 “ is *cæteris paribus*, proportional to the
 “ solidity

“solidity of the particles, and a spherical particle hath, *cæteris paribus*, the “strongest power.” Experiments, made by Morgani and others, seem to overthrow the hypothesis, which the sudorific gentlemen have embraced. The experiments, I allude to, prove that blood globules in *vacuo* retain the same size and magnitude; whereas, if they were filled with elastic air, they would be capable of distention, and blown up to a much greater bulk. Nay, they would probably burst by the expansion of the included air, when the counterbalance of the atmosphere was taken off.

Lewenhoec, by the assistance of his glasses, discovered that every blood globule was formed of six serous globules. And Sir Isaac Newton hath shewn, that the colours of all bodies arise from the determinate size of their particles, and arrangement. If so, the blood, when broken in a mortar, and blended with water, may appear somewhat like the

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serum

serum in the arteria serosa primi generis. Yet I cannot think it is so deep a yellow, as to colour lymph (which seems to be the case in bilious fevers) without the assistance of the bile. It is also probable the serum in each globule may consist of a certain number of the smaller globules of lymph; or of still finer fluids, if any finer remain in the body.

But laying aside these useless conjectures, if the dissolution of the blood should be effected in the manner supposed by these sudorific gentlemen, why does it run off so near its natural colour and consistence? why is it not broken and altered in texture and colour to a yellow fluid? But, admitting their theory, do they not take the direct method to promote the solution and colliquation of the blood, by heating, dividing, and turning to putrefaction the mass already too much exagitated?

How

How pernicious must be the theriacal draughts, which they too often prescribe in the beginning of this fever? how destructive the cardiac volatiles, and all spirituous medicines? If they will have alexipharmics, why do they not give fresh lime-juice, which is perhaps the greatest alexipharmic in the world? This acid so powerfully prevents dissolution and fluidity of the juices, that it is almost impossible to raise a salivation by mercury, if the patient takes it at the time of the operation.

But the medicines, commonly called alexipharmics, as Boerhaave remarks, hurry on the inflammation to a gangrene.

I own, if sweats break out spontaneously, they are critical, and ought to be encouraged, being a very favourable appearance; particularly when they come on soon, and are general. Then indeed they are the most agreeable evacuations

to nature in all fevers, and the surest termination. But according to the laws of animal secretion, we cannot expect them from the use of sudorifics in ardent fevers; where, by the swift and rapid motion of the blood, its thinner parts are intimately mixt and blended with the crassamentum. We may much more reasonably expect them from the use of such things, as powerfully suppress the heat, rarefaction, and ebullition of the blood. After the use of cooling, diluting, relaxing, and solutive medicines, a sweat will frequently break out, as it were spontaneously, to the great ease and relief of the patient. Nay, it is universally known, that even large draughts of cold water, or other cool liquors, will sometimes occasion profuse sweats in fevers, when all the sudorifics in the shops would not have the same effect.

Lenient purges and solutives cleanse the intestinal glands, and promote perspiration

ration internally, which carries off a much greater quantity, and much grosser matter, than could pass thro' an equal surface of the skin. The fine fluids, carried off by the use of sudorifics, are generally what nature would prudently detain, to cool, sheathe, and dilute the hot and inflamed crassamentum; nay to temper the bile, if it offends in quantity or quality. Solutives wonderfully relieve the overheated and overloaded viscera, as they solicit an immediate discharge from the liver, spleen, pancreas, &c.

If the bile offends in quantity or quality, I mean, if it is too redundantly mixt with the mass of blood, and grown more acrid than it should be, I cannot see how we can attempt to throw it off thro' the pores of the skin.

It is true, Dr. Pitcairn asserts, that "the bile in a jaundice passes thro' the pores of the skin, which", he says, "are relaxed to such a degree, as to admit

“admit its excretion.” With all proper deference to so learned and judicious a man, I must dissent from him. We all know, that the bile is a very gross fluid, abounding with oil and salt, neither of which, separated or united, will admit of rarefaction; altho’ a degree of heat, superior to that of the human body, were applied. Therefore to me it does not seem reasonable, that a fluid, so gross and withal so tenacious, can pass, at least in considerable quantities, thro’ the epidermis. Indeed we see the lymph and mucus tinged with it; but I never observed any bilious sweats change the linen yellow, as the urine always does in that disorder. If then the bile in a jaundice passes off only by the renal glands, it is not probable that in these ardent fevers it can be forced through the skin, whose pores are blocked up, and their diameters lessened by the stimuli and encreased tensify of the fibres.

Nay, experience teaches us, that nothing alleviates those symptoms of stagnating

nating choler, viz. great auxiety, and pain at the pit of the stomach, so much as solutives and diuretics mixt. We therefore ought not to attempt to carry them off any other way than by stool or urine; for vomiting is frequently dangerous.

Had these advocates for the sudorific method a sufficient knowledge of the animal œconomy, (without which the practitioner can never draw true and just indications for the cure of diseases) they would not, in rarefactive, ardent, and inflammatory fevers, make use of theriacal, spirituous, and volatile medicines; which, by an injudicious administration, bring on gangrenes, deliria, phrensies, apoplexies, or hæmorrhages. Would it not be more eligible to use, instead of those hot medicines, the fine vegetable acids, with which all-bounteous nature supplies the West Indies so plentifully? They may even be found on every hedge, and are the most powerful,

ful alexipharmics. Besides, when the liver is increased in bulk, and presses on the stomach and parts adjacent, volatiles and cardiacs will act in conjunction with the inflammation, and the descending blood vessels will be compressed. In consequence of this, the blood must be impelled more plentifully to the vessels of the head, that are already too turgid; the dangerous effects of which it is unnecessary to repeat.

This digression upon the sudorific and alexipharmic method, I hope carries its excuse along with it.

It is plain from the nature of this fever; from the immediate putrification and livid colour of persons, who die of it; and from the inspection of their viscera, that the disorder (whatever is the cause) may be justly termed a general inflammation, which often terminates in a general gangrene, and death. Every possible

possible endeavour should therefore be used to prevent this general gangrene; in order to which it should be duly considered, by what means nature strives to help herself. She is undoubtedly the best, the wisest guide; and the practitioner, who hopes for success, must not contradict her intentions, nor counteract her operations.

The critical discharges are as uncertain, as the critical days. Sometimes we have a crisis by the skin, in sweat, eruptions, or small biles, which are the most favourable and sure terminations of all fevers in Jamaica; and often by a diarrhæa, or urine. Twice have I seen a crisis by a bubo, and parotis as in the plague. Hæmorrhages from an artery are sometimes critical, and save the life of the patient; at other times, and that frequently, they carry him off.

I shall now consider the evacuations, that assist or contradict nature; in what

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stage

stage of the disease they are proper or improper, and point out a method of promoting such, as are critical.

Enough hath been said of sweats to prove they should not be attempted by sudorifics, as indeed they are seldom procurable by such means. Vomits too are very injudicious; for vomiting in this disorder is symptomatic, and proceeds from the inflammation of the liver and parts adjacent. Were vomiting critical, relief would ensue from the exhibition of a vomit; but experience convinces us to the contrary. Barbette says, "vomiting and a hickup are concomitant with an inflammation of the liver, and this symptomatic vomiting is very dangerous." If this troublesome symptom is not prevented in the beginning, it grows more and more violent, and hinders the sick from taking drink, food, or medicine, till it comes to the discharge of adust bile, and the sharp juices of the stomach. It is then the practitioner's

tioner's duty to suppress or mitigate this vomiting, or to prevent it, by keeping open the body with solutives from the beginning, and by that means to direct the course of the bile and sharp humours downwards. These solutives should be continued at least till the state of the fever. Hippocrates and Celsus observe, "that a looseness suppresseth vomiting," and in this fever experience demonstrates the truth of such remark.

Further, it will appear plain to any one, who understands the animal œconomy, or the mechanism of vomiting, that where there is an inflammation of the viscera, vomiting must of course much increase the mischief; and also how likely it is to bring on that dangerous symptom, the hickup, an inflammation of the diaphragm and intercostal muscles, from which proceeds incessant vomiting.

Tho' bleeding is an evacuation, that hath given rise to many disputes among the physical tribe, I would recommend it in this fever. Bleeding seems highly necessary in the beginning, not only in easing the pains and anxiety, which are a great part of the disease, but also in reducing the degree of heat. Wainwright observes "the heat of an animal is in
 " a compound proportion of his quan-
 " tity of blood, and the celerity of its
 " motion"; so that, by diminishing the quantity of blood, we lessen the heat and thirst, and consequently reduce in some degree the fever.

Besides, heat acts as an universal stimulus, whereby the diameters of the vessels, both secretory and excretory, are straitened; and no relieving glandular discharge can be expected, until the degree of heat is lowered. Every possible effort should therefore be made to diminish the heat, as a means of suppressing

sing the outrage, rarefaction, and efflatus of the blood. This will be the surest method to prevent the formation of the fever, and its dreadful consequences. For if the formation of it cannot be prevented, little can be done in its course; as any endeavours to force a crisis, when the fever is formed and fixt upon the whole system, would prove very dangerous. This is agreeable to the precept of the divine old man*, "incipientibus morbis, si quid movendum videatur, move; vigentibus vero quiescere melius est." This great author advises bleeding in acute fevers, where the disease is violent, and the patient hath sufficient strength to bear it.

Prosper Alpinus takes notice, that "the Ægyptians, who are obnoxious to ardent and inflammatory fevers, (not unlike those of Jamaica) bled in all ages, sexes, and constitutions with great

* Hippocrates.

"successs."

“success.” Bontius has the like remark in the ardent fevers of the East Indies. Galen observes, that we ought only to regard the strength of the patient, and bleed proportionably. And our countryman Willis says, “the hæmorrhage, before and after death, plainly demonstrates it was wickedness to omit bleeding.”

As I have quoted such great authorities in favour of bleeding, it will naturally be expected that I am an advocate for it. I have practised it with great success, and can therefore recommend it in general.

Northern plethoric patients, who have the thickest and reddest blood, with tense elastic fibres, should be bled plentifully: Yet after the first stage or increment of the fever, it cannot be so proper; because it may interrupt nature in her intentions, and prolong the crisis, if it even does no further mischief. Bleeding, in my opinion,

opinion, should be omitted, as soon as the vessels are, in any considerable degree, relaxed.

Arteriotomy is much commended by some of the ancients, in all high and inflammatory disorders, where the blood hath too great a degree of exaltation. I have frequently divided the temporal artery with good success, where the patient has been seized with a delirium or phrensy from the very first attack of the fever; which often happens, when the disorder arises from extreme motion in the heat of the sun.

Many persons, in the highest degree of this fever, have been saved by an hæmorrhage from an artery; even when there was not the least prospect of recovery, which is certainly a strong argument in favour of arteriotomy.

Either arteriotomy, or cupping with scarification seems preferable to venæsection;

tion; because the persons, who die of ardent fevers, or acute disorders, have their arteries full, and their veins empty; and those, who die of slow fevers, or chronic diseases, have their veins full, and their arteries empty.

Solutive purges, and apozems with manna, &c. are greatly serviceable in the beginning of this fever. They cool and ease the patient immediately, moderate his heat, thirst, and anxiety, and prevent that terrible symptom vomiting, so troublesome in the course of the disease. Besides, even nature itself indicates the use of solutives. A spontaneous diarrhæa is always a favourable symptom in the beginning of this fever, and when there is no discharge of that kind, due care should be taken to promote one.

The ejections by diarrhæa are generally hot, sharp, and bilious, fermenting like yeast, and often very fetid. As they
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are commonly derived from the liver, spleen, pancreas, &c. they must, and do wonderfully relieve those viscera in this and all central fevers. In the epidemic fever at Pisa in the year 1661, the few, who recovered, were relieved by a diarrhæa.

The divine Hippocrates advises to purge in every acute disease, the first day, if there is a propensity of the humours to go off that way, for delay in this case is dangerous, and, by the bye, his purges were none of the mildest. Riverius followed this precept in the plague itself, where there is interna humorum corruptio; and that there is such internal corruption in the bilious fever, the fetid ejections sufficiently demonstrate.

The practitioner is sometimes called too late, and when the vomiting is so violent, that no solutive medicines, tho' assisted with lenient clysters, will divert the course of the humours, nor antie-

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metics stop the vomiting any considerable time. In such circumstances, I have ventured to give (and it succeeded beyond my expectations) twenty or thirty grains of scammony or jalap, in an antiemetic draught; repeating it, if the patient threw it up, or if it had not in a little time some visible effect. I am sensible that the exhibition of these rough cathartics in a fever will be looked upon as strange practice. It is true I have no example nor authority to support this process, among the moderns, tho' it be sufficiently countenanced by the ancients, who gave purges in acute fevers; and their purges were most of them rough and vellicating. Hippocrates expressly directs scammony, where the stools are bilious.

I was induced to try remedies of this kind, from observation that the vomiting was never violent, (if any) when the patient had a smart diarrhæa, either spontaneous, or proceeding from the use of
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medicine; and that such diarrhæa proved very serviceable in allaying or abating all the other symptoms. Further, I considered that the stomach would not bear too great a quantity, even of the most agreeable liquor; much less a sufficient dose of manna, or any other lenient cathartic, which at such times must be given in great quantities, in order to increase the peristaltic motion of the intestines considerably, and thereby to force the humours downwards. The antiemetic draught commonly stops the vomiting, till the purge passes the pylorus. It therefore, in general, answers the intention, relieves that troublesome symptom, cools the patient, and reduces in a considerable degree the pulse, pain, and anxiety.

Clysters, solutive and emollient, are of great service, as they give immediate fomentation to all the bowels of the abdomen, promote perspiration internally, soften and relax the tense and heated

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intestines,

intestines, and gently solicit the evacuation of the bile, and other offending humours.

The use of clysters, especially during the ardency of the fever, is so very obvious, that it would be altogether needless to insist further on their being serviceable, or to produce any authorities in support of their efficacy.

Blisters are so often beneficial, and so often pernicious in fevers, that great care and attention are required in the use of them; particularly at what time of the disorder, and in what circumstances they should be applied. Here it may not be improper to make a short examination of their nature and use, in which I shall intersperse the opinions of some celebrated authors on the subject; giving at the same time my own sentiments thereon.

Blisters act by increasing the reciprocal oscillations between the solids and the fluids;

fluids, by stimulating, irritating, and ex-
 agitating the whole system. This is in-
 contestibly proved by the bloody urine
 and strangury they occasion. From hence
 it seems very evident, that they cannot
 be serviceable in the beginning of ardent
 fevers, where all irritations increase the
 inflammation, which is then become ge-
 neral. Irritations must therefore be a-
 voided, least the increased inflammation
 should become a gangrene. Yet blisters
 have been applied in the very beginning
 of ardent, rarefactive, and highly-inflam-
 matory fevers, by some practitioners; even
 without any previous bleeding, relaxa-
 tion, or considerable evacuations of any
 kind. The learned Boerhaave says of
 blisters or cantharides, "*totum genus*
 "*nervosum stimulant, & fibrillas solvunt :*
 "*puto vero maxime nocere, ubi humores*
 "*nimis soluti & acres sunt; nec in mor-*
 "*bis acutis, nec in inflammatione con-*
 "*venire, nec ubi est inclinatio in alcale;*
 "*& miror quod a tot egregiis viris adhuc*
 "*laudantur, nam faciunt febrem maxi-*
 "mam,

“mam, anxietates, halitum cadaverosum,
 “& urinam foetidam.”

Dr. Mead's observations on the use of cantharides, tho' contradictory to Boerhaave's opinion, are confirmed by experience. He says, in the confluent small pox, when the blood was in a state of dissolution, when it was discharged from the emunctories, and livid spots appeared, that he applied blisters with success; nay, even when the patient was delirious.

I am far from thinking that Boerhaave opposed the use of blisters in all stages of acute fevers. They are certainly indicated by nature, particularly when she endeavours to throw out an eruption, which is always critical. If therefore nature (or the vis vitæ, which I mean by nature) hath not strength enough to do her work, it seems highly necessary that she should be assisted.

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The subtile active salts, inherent in the cantharides, when the first irritation, caused by the blister, is over, dilute the blood, by restoring the circulation of the lymph: they scour the lymphatics, as cathartics do the intestines, break and attenuate the putrifying stagnating serum, and dispose it for excretion through the skin. From hence comes that halitum cadaverosum, which Boerhaave mentions. The salts also break and attenuate the putrifying stagnating bile, they render it capable of excretion by the kidneys, and carry it off that way, with some of the grosser parts of the putrifying serum. This clearly accounts for that *urinam foetidam*, mentioned by the above learned author.

In all central fevers, blisters are certainly serviceable. They often prevent an inflammation of some noble viscus, by transferring it to the superficies, and of consequence relieve the convulsion of the
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diaphragm, and intercostal muscles; which convulsion is brought on by continual vomiting. Experience teaches us, that blisters mitigate violent vomiting and hickup; yet I would by no means recommend the use of them in the beginning of fevers, whilst the fervor of the blood, and tenfity of the vessels continue.

After all, blisters, in my opinion, are seldom necessary in this fever. In some cases I have found them serviceable, but they ought never to be applied without due care and deliberation. When necessity requires their application, the patient should be plentifully supplied with diluents, and smooth cooling drinks; such as emulsions with gum arabic, &c. These indeed are necessary thro' the whole course of the fever, but, during this application, they should be given in greater quantities, in order to sheathe and dilute the caustic salts of the cantharides.

In this fever, as in most acute disorders, diluting and relaxing medicines and diet are most proper. The patient should be kept as cool as possible. To stifle him with a load of bed cloaths, or to exclude the air from him, will add to his malady. Celsus and Boerhaave are of this opinion; the former of whom, speaking of a patient in a fever, says, "etiam amplo conclave tenendus, quo multum & purum aerem trahere possit, necne multis vestimentis strangulandus."

It would be happy for poor sick strangers, if we could procure them large perfused rooms, instead of the holes they are crammed into. A free admission of air is often better half the cure. Many persons, who have had this fever on board of ships in the harbour, who seldom drank any thing but cold water, and who had no bed to lie on, nor cloaths to

cover them, merely by a free admission of pure air, have recovered.

Such things, as relax and dilute, must be proper in this disorder. All the fibres are tense and dry, and so long as the heat, ficcidity, thirst, and swift pulse continue, all diluents, and the thinnest fluids are of service. Even cold water itself will be of use, as the drought, and contraction of the vessels are a very great part of the disorder.

The warm bath, or partial fomentations with vinegar and warm water, must be very serviceable, as they relax and cleanse the cuticular glands.

Acids, of which Jamaica produces the finest in the world, and perhaps the greatest variety, must be very beneficial. To these we may also add vinegar and water mixt, and acid medicines; such as, *sp. vitrioli*, *ol. sulph. per camp.* *sp. nitri dulc.* &c. Neutral salts, much diluted,

luted, are likewise proper; but these must be given in small quantities, or they increase thirst. All these, judiciously administered, are very useful. Even solutive acid fruits; such as tamarinds, and cassia boiled in water for common drink, will assist the patient.

Jamaica-sorrel, or the jelly of it dissolved in barley water, and all the fine acid fruits of that island, are not only most agreeable to the sick, but greatly contribute to abate the inflammation, to allay thirst, to resist the general putrefaction of the juices, to correct the bile, to promote its discharge by urine, and gently to open the body.

Manna, dissolved in barley water, and acidulated with lime or lemon-juice, is also a very agreeable drink. It might be taken to keep the body soluble and open, and by that means to ease the anxiety, heat, and pain.

Bristol hot-well water, when it arrives in Jamaica, seems to be the purest of all mineral waters; having lost all the minera or calx, with which it may be impregnated at the well. As it is a pure cool drink, and vastly agreeable to the sick, it may be drank plentifully after the increment, and during the state of the fever. At that time there cannot be a better liquor to dilute, cool, and temper the inflamed and almost-boiling blood, as well as promote any critical discharge.

Galen recommends the drinking of cold water in continual fevers; so do the Arabian physicians, particularly Avicenna, who gave it thro' the whole course of ardent and bilious fevers, to allay thirst, and to temper and promote the concoction of the bile. Indeed, warm or tepid liquors are best in the beginning, because they relax most. Hippocrates, in acute disorders, gave ptisan or barley water,

ter, and the thinnest and coolest food. Willis recommends barley water with honey and vinegar; Boerhaave tamarinds, lemon-juice, rhenish wine, and butter milk, strained thro' flannel to take out the butter and cheese, in disorders where the juices are inclined to putrifaction. He says, the poor people at Amsterdam, in the time of the plague, drank a mixture called detribus, the basis of which was raw vinegar, and by the use of it many recovered. Tachenius asserts, that in a very severe plague in Italy, he preserved himself and many others by the use of acid spirit of sulphur; and Sydenham hath left on record, that in the small pox of the worst sort, where the humours were so strongly inclined to putrify, that nine out of ten died, (which he observes scarcely happens in the plague) he gave the acid spirit of sulphur in small beer, and that he found no remedy, on which he could depend, till he made use of this medicine.

From

From these observations we may fairly conclude, that acids must be of great use in fevers at Jamaica, where the juices are so strongly inclined to putrify. But it is to be observed, that acids should not be given thro' the whole course of ardent and putrid fevers, but only so long as the alkaline putridity continues.

I have experienced the following medicine to be of great service in the beginning of this fever.

R Sp. Nitri dulc. &

— Salis dulc. $\bar{a}$ $\bar{a}$ 3ij

— Vitrioli - 3j. M.

Cap. gtt. XXX vel XL subinde in quovis vehiculo.

This medicine greatly resists putrefaction, corrects the bile, and is exceeding useful in some kinds of jaundice, as well as in this disease.

As

As the fatal termination of this fever is a general gangrene, and the Peruvian bark is the last remedy known in a local gangrene, I am ready to conclude from analogy, that it may be useful in this fatal stage of the disorder.

It may not in this place be amiss to examine, why this noble medicine, given in the remissions of this fever, does not answer our expectations or intentions.

The action of the bark renders the fibres more tense and elastic, and enables them to subdue that lentor in the blood, which causes intermittent fevers. To account philosophically for its action is not my intent; I need only assert, that it hath such effect from the specific configuration of its particles. But here the very action, and the effects produced from the bark are very pernicious, and
must

must be particularly so, when the cause is an inflammation in the small vessels constituting the larger. Nay, the mischief will be increased, as is very obvious from the rough, constringing, and stimulating power of the bark. Every attempt must be made to relax the vessels; for their tensility will not only hinder all the glandular secretions and discharges, but increase the soreness, heat, pains, anxiety, and thirst.

But the matter is widely different in a gangrene, in an extreme part, where the circulation is languid, and the vessels are weakened with contusion; or where any accident hath caused too great an afflux of blood for some time to the part affected; by which continued plethora the vessels will be over-stretched, and their contractile restitutive power in some degree lost. It is also different in old age, when the blood is naturally vapid. In these cases there is no increased tensility
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of the solids, nor any undue exaltation of the blood.

Young robust persons, who have the most tense fibres, are the most obnoxious to this fever; and to them it proves most fatal. Women, or men of lax habits are seldom seized with it; and when such visitation happens, they get thro' it with much less difficulty and danger, than those of a different sex, and different constitution.

Here it will not be improper to take notice how fatal this fever hath been to strangers, Europeans, and North Americans; especially to those, who abound with a great quantity of blood rich with salts, who are in the heat and prime of life, and whose pores are tense and elastic. Such persons are obnoxious to inflammations for the reasons before given, and are with the greatest difficulty cured.

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When

When a stranger arrives in Jamaica from a northern climate, the blood must be in some degree rarefied, which rarefaction may be called a plethora. The vessels do not relax so suddenly, nor in such proportion, as the blood is rarefied. The circulation is rendered quicker by the unusual heat, and all the secretions are increased; except those by stool and urine, by which only the bile can be carried off.

The bile therefore being separated in a greater quantity than usual, by the increased circulation, heat of the climate, use of spirituous liquors, or such other causes as promote its secretion, a redundancy of it must naturally ensue.

This redundancy of bile, the stiffness of fibres, and the thickness of blood, are obvious and incontrovertible reasons, why strangers are naturally more liable to
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this fever, than the natives of Jamaica; or those, who have long resided in that island.

Since this is the case, such a method should be followed, as would prevent a redundancy of bile in strangers on their arrival, take away the plethora, and relax the pores. This should be continued, till their solids are sufficiently relaxed, and their juices assimilated to the air of the climate.

The method I would recommend should be as follows : viz. when a stranger, with a northern constitution, arrives, let blood be drawn from the arm, if he is sanguine and plethoric. Bleeding will naturally lessen the degree of heat, and abate the nîsus of the particles of the blood.

After bleeding (if no favourable flux intervene) give some solutive purge, such as manna and cream of tartar, once or

twice a week, sufficient to move the belly two or three times.

Let him for some time use a warm bath every day, to relax the cuticular glands, and to cleanse them of any sordes, that may obstruct a free transpiration. Let him be rubbed with a cloth, then anointed with a small quantity of oil, according to the custom of the ancients, to prevent what is commonly called catching cold. Warm bathing appears to me to be of great consequence, therefore, I think it should not be omitted.

Perhaps further bleeding at certain intervals may be requisite; but this should not be ventured upon without advice. Bathing or purging should also be put under the same restriction; for these ought to be proportioned to the constitution, habit, age, sex, and temperament of the patient. Some should bathe long and often; others seldom or a short time; and others

others still, whose habits are sufficiently lax, not at all. To persons too much relaxed, the use of the cold bath may be necessary.

To keep the body cool, and afford a constant supply to the blood, the thinner parts of which may be exhausted, or too much dissipated by exercise, or the heat of the climate, it is proper to drink small, but frequent draughts of sherbet, or very weak punch. A draught in the morning may not be amiss to cleanse the urinary passages, where some foulness is apt to accumulate during sleep. Tamarind water, orange-whey, or sucking some acid fruits would equally answer the purpose.

As to diet, that which is light, cool, easy of digestion, and acescent, is the best; because it prevents the alkaline putridity of the juices. But I would by no means advise any particular form,
since

since it is very certain that persons, who live freely, provided they fall into no excesses, are not more liable to ardent fevers, than those of the most exact and temperate cast.

Vinegar and salt resist putrification, and on that account they seem necessary. It would not be amiss to use them freely with all animal food.

But nothing conduces so much to the preservation of health in Jamaica, and all other southern climates, as a proper regulation of the passions. I say in Jamaica, and all southern climates; because in the northern countries, the effects of the passions are not so violent, nor so soon discernable. In northern climates, they possibly help to lay a foundation for chronic disorders, but in the southern, they almost instantaneously bring on acute diseases. Violent anger, or extreme grief will in a few

few hours bring on a jaundice or bilious fever, and the fear of dying perhaps kills more, than the most intense heat of the climate.

F I N I S.